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TWO CASES OF SYMPATHETIC DISEASE OF THE EYE.

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CASE I.—SYMPATHETIC OPHTHALMIA.

John M., æt. 45 years, applied for treatment June 20, 1884. In the year 1869 I enucleated his left eye by Bonnet's method and secured a healthy coniform orbital cavity. I obtained for him several artificial eyes, which he wore comfortably year after year and with no more than the usual discharge attending the use of such eyes. His business is that of a carriage blacksmith, which he followed continuously without any injurious effect upon his right eye. About May 20, 1884, he broke his artificial eye and procured another, which did not fit him, from a party who did not understand how to adapt such eyes. This eye was too broad at the base vertically, and as a result the lower segment of the eye pressed firmly down into the inferior cul-de-sac, causing the margin of the lower eyelid to turn inwards. The eye did not fairly enter the orbital cavity below, and as a result, there was produced an elevated ridge running across the lower region of the base of the orbit, which supported the base of the artificial eye below, and against which that part of the eye pressed firmly.

This ridge was red and tender to pressure, while the balance of the coniform orbital cavity was pale and free from tenderness. There was no tenderness on firm pressure at the apex of the cone in the region of the divided optic nerve. This ridge was composed of mucous membrane and infiltrated cellular tissue. The eye inserted, on attempting to close his eyelids, pain would result in the region of this ridge. From the time he began wearing this eye, the discharge from the left orbital cavity became profuse, flowing over the eyelids and requiring frequent wiping. He feels confident that at no time did any matter from this cavity gain access into the other eye. At the date he came to me this discharge was muco-purulent, and he was wearing the artificial eye. About the eighth or tenth of June, 1884, he began to feel an uneasiness and occasional pains in his right eye, especially on reading at night. He continued his work. On the fifteenth of the same month he took a long ride in the country in an open buggy. On the sixteenth he resumed his work and found his eye more sensitive. On the seventeenth he could not work the pain in the eye being extremely severe, and it was intolerant of light. During this day there was a muco-purulent discharge from the right conjunctiva—so he says. He applied iced compresses to the eye and a collyrium of atropine. Anodynes were taken also. Under this treatment the pain was mitigated but not removed. When he came to me on the twentieth the photophobia was less because of effusion, the pain was partially relieved, the iris was adherent to anterior capsule and pupil irregular; there was no discharge from the conjunctiva of the right eye, the injection of the conjunctiva was almost entirely radiated; the aqueous was moderately clear and iris slightly darkened and the anterior chamber ample. There was pigment on the anterior capsule of the lens on its inner and lower quadrant and on its lower segment, and the iritic adhesions were found in the same sections. There was tenderness on pressure in the lower ciliary and at the upper and outer ciliary region. In the lower part of the pupillary area appeared a plasmic effusion, which spread from below upward in the pupil until it reached the upper border of the pupil, in the progress of the case, when vision was merely perception of light. He could only count fingers when he came

to me. As the disease abated this effusion in the pupillary area was absorbed in the reverse order in which it appeared, viz., from above downward, and his vision returned first below and then above. After he came to me he did not suffer severe pain in the right eye. In the left orbital cavity there was a muco-purulent discharge, but no pain when the artificial eye was removed, which was done at once, excepting on pressure over the ridge above described. This ridge continued red and inflamed until the close of the treatment of the case. It was indurated but no matter formed within it. The inner surface of the left lower eyelid was also tender on pressure, and during the progress of the case a linear ulcer appeared along the entire length of the lid. During the course of the treatment the left orbital cavity was disinfected. Atropine was the only eye water used in the right eye. He was mercurialized, the right temple was cupped; he was blistered behind the right ear; he was given jaborandi at night and anodynes for pain and sleeplessness; he had also iodide of potassium and later tonics and strychnine as a nerve tonic. It should be stated that this man was temperate and that he had not had rheumatism or syphilis.

September 2, 1884, his vision = $D_{12.0}^{6.0}$ remotum, and with +D 3.0 s = $\frac{6}{3.0}$ or $\frac{6}{12.0}$ proximum. His pupil is half dilated and there is but little motion in the iris from adhesions to the capsule. The anterior capsule is nebulous, more deeply so below, in the area of the pupil, from capsulitis. The iris is bright, the cornea clear and the conjunctiva white. The eye is free from all tenderness. The left orbital cavity is healthy and he is not permitted to wear an artificial eye.

Remarks.—That this was a simple case of sero-plastic iritis, affecting the right eye primarily we do not believe. A careful survey of the history and symptoms will lead to the belief that this disease was an irido-cyclitis sympathetically induced from the use of a badly fitting artificial eye worn in the left orbital cavity.

From the fact that the disease began in the lower segment of the iris and ciliary body, of the right eye and in the lower region of the left orbital cavity, would suggest a causative relation between the disease of the orbit and that of the eye. The absence of

any known cause of the disease of the right eye primarily acting upon it, would favor the view of sympathy as a cause flowing from the left orbital cavity.

The fact that as the disease of the left orbital cavity disappeared so did that of the right eye, favors the conclusion, that the two processes are related. The fact that he had worn an artificial eye with impunity, for years, and that, after wearing a badly fitting eye but two or three weeks, pain and irritation of the orbital cavity and of the right eye followed; would suggest that the artificial eye had some connection with the disease of the right eye.

The progress of the disease, from below upwards in the right eye would lead to the surmise, that, the track of sympathy was through nerves, for if the disease reached the right eye by sepsis from the cavity of the left orbit, it is not unreasonable that all parts of the iris and ciliary body would be affected simultaneously, and not in segments as though transmitted through nerves from a limited area of irritation, the branches of the fifth nerve distributed to the lower left eyelid, and lower segment of the orbital lining, in this case. The fact is admitted that such irritations may be transmitted through sensory nerves and induce inflammation of other organs as well as of the eye.

The case points strongly to the importance of the employment only of properly fitting artificial eyes.

I should add, that, at this time the fundus cannot be plainly seen owing to the nebulous state of the anterior capsule. I can now, only by indirect light, catch a glimpse of one of the retinal vessels, which seemed of proper size.

The left eye was enucleated for the effects of a small portion of steel which lodged in the fundus.

September 14, 1884. He has, by my direction, omitted the use of atropine in the right eye, during the last nine days. His pupil is now about the normal size, is round and slightly movable. The iris is not adherent to the capsule at the edges of the pupil. The anterior chamber is ample in size. The effects of the atropine having passed off. I find he still requires +D 3.0s to read D 0.6 Snellen at 30 cm. Now as the nebulous state of the anterior capsule has improved since my last examination

and he requires D 3.0s to read normally, I infer that the structure of the ciliary muscle has been impaired by the cyclitis and hence the aid of + glasses is required, stronger than his age, 45 years, would demand in order to see. The iris is sluggish in its muscularity no doubt from the injury its structure has sustained from the iritis. I doubt if there be peripheral iritic adhesions to the anterior capsule in this case.

CASE II.—SYMPATHETIC IRRITATION.

Mrs. J. R., æt. 30 years. Consulted me February 24, 1882, for an injury of the left eye incurred eighteen months before, the result of a blow from a sharp stick of wood, which penetrated at the sclero-corneal margin, passed through the iris and wounded the lens. Now there was severe pain in the eye-ball, which was tender to pressure, but not tense. These attacks of pain recurred at intervals and did not yield from the use of anti-periodics or other agents employed. Her general system was depressed from suffering and the right eye was painful, and the sight impaired; but no structural lesions could be detected in it. There was evidently in the sightless left eye a low form of iridocyclitis with choroiditis, as well as neuralgia from inelavement of the iris in the corneal wound and which was affecting the right eye.

I advised the removal of the left eye which, I did after chloroforming the patient on the following day, by Critchett's method. The flaps were secured by sutures, the recovery was rapid and the sight of the right eye was restored, and she now wears an artificial eye.

The eyeball was placed in Müllers' Fluid soon after removed, in which it remained until March 20, when it was examined and presented the following conditions: The lens was opaque, of a light brown color and smaller than natural. The great bulk of the vitreous was fluid and filled with pigment, but a portion about one-third its normal bulk was about its natural consistence and yellow in color. There is a pupil and the

iris is enclaved in the corneal cicatrix. The choroid and retina were in normal position.

Under the microscope the retina is seen to be infiltrated with pigment, blood globules and granules. The pigment of the choroid is massed at points and wanting at limited areas. The vessels of the choroid are obscure and the retinal vessels could not be seen. The circular and radiating muscular fibres of the ciliary muscle could be seen, but this muscle was infiltrated with blood globules, pigment and granular matter. The iris was infiltrated mainly with lymphous deposits. Its structure was obscured, partly destroyed, and its circular and radiating fibres irregular in disposition, and its pigment almost entirely wanting on its posterior surface. At the lower and outer quadrant it was inclosed in a cicatrix near the sclero-corneal margin. This scar on the inner surface of the cornea is infundibular, while its outer surface was elevated and its walls present a homogeneous structure. Within this cyst the diseased iris is adherent. There is a radiating bridge of true corneal tissue passing over this cyst dividing it into two compartments. At the lower extremity of this scar the corneal fibres come around that end of the wound, as though pushed aside by the vulnerating body, and which were never replaced.

Remarks.—We regard the corneal wound and the enclavement of the iris as the great source of the inflammation in this case: The continual irritation kept up by the dragging upon the iris producing iritis and followed by choroiditis and cyclitis. No doubt the ciliary nerves were involved in this scar, as well as those of the iris and ciliary body. These nerves we believe to be the seat of the irritation which produced the recurring attacks of neuralgia in the left eye, and which by reflex influence were transmitted to the fellow eye. The microscopical specimens show that the iritic angles were free, that there was no cupping of the optic disc, and this with the fact that the cystoid scar permitted transudation of fluids, would exclude the conclusion that the glaucomic process had to do with this case. We believe this case then to be one of sympathetic irritation of the fellow eye, the irritation transmitted through the ciliary nerves from the diseased eye and mainly from those enclaved in the scar of the left eye.

CLINICAL NOTES.

BY F. C. HOTZ, M. D., CHICAGO, ILL.

1. *Two Cases of Retro-bulbar Neuritis (Amblyopia Centralis).*—The microscopical researches of Dr. J. Samelsohn¹, of Cologne, have fully disclosed the nature of the inflammatory in the optic nerves in those cases of central scotoma without any manifest changes in the fundus. He has shown the process to be primarily an inflammation of the interstitial connective tissue of the optic nerves with a tendency to proliferation and subsequent shrinkage, and that this shrinkage of the interstitial tissue eventually induces the destruction of the nerve elements. This being the pathology Dr. Samelsohn expected good results from the persistent administration of the iodide of potassium, whose resolvent power upon proliferating tissues is well known. Nor was he disappointed. "Since I have used," he writes, "the potass. iod. in large doses persistently for a longer period, I obtained so much improvement of all cases (save those which had already passed to the stage of atrophy of the optic nerves) that I can heartily recommend this treatment. I begin with two grammes pro die, gradually increasing the amount to as much as five grammes pro die, and never forget telling the patients that they must not expect the first signs of improvement before the expiration of six weeks. For according to my numerous observations this is the average period in which a diminution in the size of scotoma can be proven by the perimeter." But it stands to reason to admit that in fresh cases the improvement may be quicker; and in the following two cases I found it so.

The first case came to me shortly after I had read Dr. Samelsohn's very interesting paper.

Mr. H. W., æt. 50 years, healthy and robust, could see perfectly well until August 7, 1882. At 11 o'clock in the morning of that day, he wrote a report which he had to submit at a meeting of the lodge at two o'clock in the afternoon. But

1. "On the anatomy and nosology of the retro-bulbar neuritis (amblyopia centralis)," published in Graefe's Arch. f. O. xxviii, 1.

while he did not experience the slightest visual difficulty in the forenoon when writing the report, he could not see enough in the afternoon to read his own writing.

He then tried various kinds of glasses and, at last, on Aug. 29, came for an examination. I found the following *status præsens*. R. E. V = $\frac{20}{L}$, not improved by glasses; pupil slightly enlarged, clear media, normal fundus; retinal vessels show normal caliber. Central scotoma which projected at 12 inches, presents almost circular outlines with a radius of ten millimeters.

L. E. V = $\frac{20}{LXX}$; normal media and fundus; central scotoma, also of circular form, but with a radius of six millimeters.

The patient was given iodide of potass., ten grains three times per day.

Sept. 12, R. E. V = $\frac{20}{LXX}$, radius of scotoma reduced to three mill.; L. E. V = $\frac{20}{L}$, scotoma reduced to a faint mist over the fixation point.

Oct. 3, R. E. V = $\frac{20}{L}$, only a faint cloud on point of fixation; L. E. V = $\frac{20}{XL}$; no trace of the scotoma.

Nov. 22, V = $\frac{20}{XXX}$ in each eye; Snellen 3 with + 24.

Another case of the same character came under my care quite recently (Sept. 20). J. H., æt 32, butcher, woke up five days ago, with obscured vision. He is very positive that on the preceding evening he could see as well as anybody. He had not been working for five weeks, because he was not feeling well; since his sight became dim, he has frontal headache every morning.

Status præsens: The eyes appear normal externally and internally, excepting the pupils, which respond rather sluggishly to light, and, in fact, do not contract sufficiently. R. E. V = $\frac{20}{L}$, L. E. V = $\frac{20}{LXX}$, not improved by glasses. Central scotoma before each eye, with a radius of 4 millim. (projected at a distance of 12 inches). Ordered potass. iod. ten grs. three times.

Sept. 30, R. E. V = $\frac{20}{XXX}$ a faint haziness is the only trace of the scotoma, L. E. V = $\frac{20}{L}$ scotoma reduced to half-size.

2. *Iritis Serosa During Pregnancy*.—In January, 1882, I examined the eyes of a lady, æt. 30 years, of a nervous temperament and very delicate health. While the L. E. was healthy,

in every respect, the R. E. could just count fingers. There was no pericorneal injection, but a small cloud of parenchymatous infiltration occupied the center of the cornea and the posterior surface was thickly covered with a fine dust-like sediment. The pupil was regular and rather large; no formed opacities in the vitreous; papilla very red and rather indistinct.

The lady was in the fifth month of pregnancy, and the R. E. became obscured four weeks before I examined it. It remained in this condition until the child was born; then it made a quick and spontaneous recovery.

Two years previously the lady, while pregnant, had daily paroxysms of ciliary neuralgia in the R. E., which also ceased spontaneously immediately after the child was born.

3. *Retinal Hemorrhages of Unusual Size in the Region of the Macula with Perfect Recovery of Vision.*—Mrs. M. B., æt. 42, lost the sight of her L. E. quite suddenly about the middle of April, 1880. During her menstrual period she put her feet in very cold water, whereupon the menses ceased at once. Two days later, while working over an embroidery, she became dizzy and felt a peculiar sensation in her L. E., and a few minutes later discovered she could not see with that eye. One week after this happened, April 22, I examined the eye and found the central region of the fundus occupied by a very large hemorrhagic effusion, the outlines of which described a complete circle, its diameter in every direction being about three times that of the optic disc. Its inner circumference just touched the temporal margin of the papilla, and its lower border covered a piece of a lateral venous branch. This blood disc was dark red; but there was a marked difference in the shade of the color between the upper and lower half, the lower being much the darker one, as if the extravasation was thicker or the coloring matter of the blood, had settled toward the dependent location.

The papilla presented a normal appearance; but along the upper branch of the retinal vein, at either side of the vessel, I noticed small hemorrhagic streaks. The patient could discern the light, but, as she expressed herself, it appeared as if she was looking through blood. R. E. M $\frac{1}{30}$; V = $\frac{20}{100}$; ordered elix. rhamn. frangulæ.

May 4, all traces of the hemorrhagic patches have disappeared; $V = \frac{20}{XXX}$.

May 24, $V = \frac{20}{XX}$; fundus normal.

To account for the complete recovery of the sight and the absence of any permanent lesion in the region of the yellow spot, we must assume that the blood was effused over the inner surface of the retina, forming a blood disc between the retina and vitreous body. If this amount of blood had been effused into the retinal tissues it would certainly have produced and left some disturbance in the perceptive elements of the macula (micropsia, etc.); if the hemorrhage had occurred in the choroid, the retinal vessels would not have been hidden by it from our view. But if the bleeding occurred at some distance from the macula, and the blood directly breaking through the inner layers of the retina spread out over its inner surface, we can understand how it could assume the round form and that the yellow spot did not sustain any injury.

In a later case of the same character I discovered in the fundus, between the papilla and macula, two short white streaks which I believe marked the spots where the hemorrhage occurred and where the blood made its way through the inner layers of the retina to spread out between it and the vitreous body. My notes of this second case read as follows: Mrs. L. B., æt. 57, suffering from dyspnoea and bronchitis, had inflammation of the lungs in June, 1882. During a paroxysm of coughing the sight of the L. E. became entirely obscured, but in the course of two months it gradually returned. On the 28th of July, the same sudden obscuration occurred to the R. E., and on August 19, 1882, I examined the patient. R. E. central scotoma of great extent, allowing only peripheric perception. Media clear; papilla normal; at its temporal margin an hemorrhagic effusion which extends far beyond the macula; its outlines describe a perfect circle; its diameter is at least three times that of the papilla; the lower portion much darker colored than the upper one.

L. E., H. $\frac{1}{48}$, $V = \frac{20}{XXX}$; clear media; in the fundus half way between the optic disc and the macula, two very small white streaks, like minute scars; the one streak lies in a line with the upper margin of the optic disc, and runs upwards and

outwards, and the other one lies in a line with the lower margin of the disc and runs obliquely downwards and outwards. No other anomaly was found in this eye.

This was the only time I saw the patient; but I was informed she gradually recovered the sight of her right eye, and died of apoplexy, in May, 1883.

4. *Salicylate of Sodium* vs. *Rheumatic Cyclitis*.—In May, 1880, I published in the *Chicago Med. Jour. and Ex.*, a series of cases which showed that salicylic acid exerts its salutary influence upon rheumatic affections of the eye with as much promptness as it does upon the rheumatic joints. In all the cases which were benefited by salicylic acid, it was evident that the ocular inflammation bore a close relation to, and was dependent upon the rheumatic state of the constitutions; it showed itself very rebellious to the usual applications alone, and was either preceded or accompanied by other manifestations of rheumatism in other parts of the body. Many cases have since been found to corroborate these observations; but a case of cyclitis which had been under my care recently, furnished such a good instance of the therapeutic value of salicylic acid in the affections above alluded to, that it may be briefly recorded.

Mr. J. A. E., æt. 38, a gentleman of very regular habits, presented himself, Aug. 15, at my office, with an incipient iritis of the R. E. Three days ago the eye became red and sensitive to light; and every night since then he suffered considerable pain. The pericorneal injection was not very intense; the iris appeared dull, and the pupil was contracted, but no posterior synechiæ. Atropine was prescribed and the patient advised to abstain from his office work and to remain in his room.

Aug. 17. Pupil dilated regularly, but not *ad maximum*; iris duller; considerable engorgement of the conjunctival and episcleral vessels of the eyeball; upper ciliary region tender to the touch. Had very violent pain in eyeball last night. Thinking the atropine might possibly have caused the additional irritation, I substituted duboisine.

Aug. 18. Irritation subsiding and pupil dilated *ad maximum*; but ciliary neuralgia was as severe last night as before. Poulices and quinine.

Aug. 22. Every three hours during day and night an attack of ciliary pain; the poultices gave quick relief, and the eye felt very comfortable until the next attack set in. The patient has been in bed now five days, not exposed to drafts of cold or damp air; but for the past three or four days he has had a great deal of rheumatic trouble; now the knee joint would be painful and lame; then one shoulder be sore and stiff; and so the rheumatic pain has been traveling all over his body. He informs me that he has been subject to rheumatism these ten years. Upon this information *sod. salicyl.* five grains every two hours was ordered.

Aug. 23. Passed through the night without any real paroxysm of neuralgia; he woke up twice, when his eye felt a little uncomfortable, but there was no sharp pain.

Aug. 26. Eyeball free from redness; still at the upper ciliary region a limited tender area.

Aug. 30. Eye has been free from all sensitiveness to pressure and light these two days. *Salicyl. sod.* discontinued.

Sept. 10. Eye has been perfectly well; no return of neuralgia; pupil of natural size, and mobile; V normal.

A CASE OF SEROUS IRIDO-CHOROIDITIS OF BOTH EYES ENDING IN TOTAL BLINDNESS.

BY CHARLES J. KIPP, M. D., NEWARK, N. J.

W. D. R., aged 16, a very bright boy, consulted me for the first time on September 9, 1876—eight years ago. I learned from his mother that he had an attack of left hemiplegia in infancy, from which he has only partly recovered, and that he passed through many diseases during his childhood. During the last ten years he has been in excellent health. His eyes were perfectly healthy till January 31, 1876, when his right eye became, suddenly, violently inflamed. A few days later he noticed that the eye was blind. The left eye did not become affected. He was under the care of a homeopathic physician, who called the disease an *iritis*.

The examination made by me on September 9, 1876, showed

that the left eye had compound myopic astigmatism ($-4 \text{ D S } \ominus -1 \text{ D C } 90^\circ$) and that its sight was above the average $S_{\text{C.V.}}$. This eye was perfectly healthy. *The right eye was totally blind.* It was free from all signs of irritation. There was no conjunctival injection. The cornea and the aqueous were clear. The pupil free and active. The iris somewhat atrophic. On the anterior capsule were numerous spots of brownish pigment. The vitreous was very hazy, and the nasal half of the retina was opaque and detached. The other half of the retina and the disk were hidden from view, the tension was somewhat reduced below the normal. I advised him not to use his eye for near work and I gave him a glass which corrected the error of refraction.

During the following two years and a quarter I saw him occasionally and as the good eye continued to be healthy I allowed him to accept a position as salesman in a store. Shortly afterward he had several attacks of severe pain, accompanied by redness in the left (good) eye. I did not see the eye while in this condition, but some days later when he came to me no signs of disease remained. With the exception of absolute rest for the eye, I advised no treatment.

Three months later, while witnessing a performance in a theater, the right (blind) eye became suddenly very painful and inflamed. On the following morning I found intense ciliary injection; cornea and aqueous were clear, and the iris apparently unchanged. The vitreous was very opaque. Detachment of retina total. The ciliary region was very painful to the touch. T—1. Leeches were applied to the temple, ice compresses kept constantly on the eye, and a 1 per cent. solution of atropia instilled at short intervals. Under this treatment the pain soon disappeared, and the ciliary injection subsided gradually.

Ten days after the beginning of this attack there was a relapse of the inflammation. The iris became discolored and swollen and a yellowish mass was noticed behind the lens. On closer examination it was found that the yellowish mass was situated near the posterior pole of the eye and that it was of about the dimensions of the disk. Whether it was located in or

behind the detached retina could not be made out. In spite of all treatment numerous posterior synechiæ formed which gradually led to complete occlusion of pupil. There was at no time a plastic exudation in the pupil, or in the anterior chamber.

From March, 1879, to September 1, 1883, he had no inflammatory attacks in either eye. But about this time, after prolonged exposure to the glare of the sun, during a sea voyage, the blind eye became again painful and red. In application to the eye brought however speedy relief.

On September 10, 1883, I saw him again. Two days before he became greatly heated in running some distance to catch a railroad train, the following morning *his good eye* was considerably inflamed. The ocular conjunctiva was slightly œdematous and injected, the lids a little puffy. Cornea, aqueous and lens clear. Iris apparently normal. Vitreous slightly hazy. Lower inner margin of disk blurred. At the macula there was an irregular distribution of the pigment epithelium, which was formerly entirely regular. No other abnormality about fundus. S $\frac{5}{15}$. Ordered leeches to temple, ice to lids. On the second day after this the patient was seen again; there was increased redness and injection of scleral conjunctiva. The lids were somewhat more puffy. The eye had a suffused, watery look. The cornea seemed somewhat hazy throughout and on Descemet's membrane were deposited very many small black particles. The aqueous was cloudy, the iris was apparently normal and the pupil was of normal size, and active. The lens was normal, the vitreous was very cloudy. Of the disk only the margin could be indistinctly seen, its central part being hidden either by an exudation in its centre or a membranous formation in the vitreous immediately in front of it. The region of the macula was slightly more opaque than the rest of the retina. A closer examination was prevented by the opacity of the vitreous. S $\frac{5}{15}$. Tn. More leeches were applied to the temple. Atropia was instilled at short intervals and calomel and opium were given internally.

On Sept. 13, that is the following day, there was increased chemosis. The pupil was widely dilated. otherwise no change. Tn. Has a dull pain in the eye and temple.

This condition continued till Sept. 17, when there was apparently less opacity of the vitreous. On this day he could tell without much difficulty the time from my watch, held eight inches from the eye. As there was slight soreness of gums the calomel was discontinued and salicylic acid and carb. soda substituted. This treatment was continued for ten days, during which I was absent from town. Dr. Rankin, who saw the patient for me, states, that considerable improvement in the condition of the eye and in vision was observed during the first five days, then after a severe tooth-ache, which was relieved by plugging the cavity of the tooth with cotton saturated with chloroform increased chemosis and greater opacity of vitreous was noticed. At same time greater impairment of central vision and a marked concentric contraction of the visual field was noticed and a decrease of tension.

On October 1, I saw him again. There was less oedema of the lids and of the ocular conjunctiva, but otherwise there was no change. He could see the movements of the hand only immediately in front of him. Light thrown into the eye with a mirror was perceived in all parts of the retina. I discontinued the salicylate of soda and gave him hypodermic injections of a $\frac{1}{2}$ grain of pilocarpine once daily. In spite of the treatment, the opacity of the vitreous increased and the deposit on Descemet's membrane became thicker. T—1.

About October 6, he had severe neuralgic pains in the right side of the jaw and the right (blind) eye became quite red, but this passed away again in a few days.

On October 14, he had for the first time light flashes in or before his left eye. The photopsiæ annoyed him a good deal.

On the following day I permitted him to take a very short walk, and on his return home he noticed that the upper half of the field was absolutely dark, the line separating the light from the dark part being irregular.

On the following day, October 16, I could distinctly recognize a large detachment of the retina, above and outward. The patient was again put on his back, and the bichloride of mercury and iodide of potassium were given in addition to the pilocarpine.

Since then total detachment of the retina seems to have tak-

en place as he is [now (November 1,) unable to perceive in any part the light thrown in the eye with the mirror. T—1. There is now but little injection of the scleral conjunctiva. The cornea is slightly hazy and on Descemet's membrane is a thick deposit of very small black precipitates. The iris is slightly discolored, but not changed in texture. The pupil is widely dilated from atropia. The lens is clear. The vitreous examined by oblique illumination seems quite clear in its anterior portion. With the ophthalmoscope an indistinct reddish reflex is seen for a moment which is immediately changed to a whitish blue color, no matter in which direction the eye is turned.

May 1, 1884, a whitish membrane with a few broad red streaks on it is now seen behind the lens.

The condition here described was still the same on June 1, 1884.

July 1, 1884, the pupil is much smaller since the instillations of atropia have been stopped and some posterior synechiae are visible. The lens is becoming opaque. The globe is gradually shrinking. There is no perception of light. T—2. The patient is in most excellent general health, and the stunted arm and leg seem to have gained considerably in power.

REMARKS. I do not remember ever before to have seen a case of serous irido-choroiditis in which in spite of active, and I think appropriate treatment, the eye was so rapidly and completely destroyed, as in the above case. Beginning with moderate injection and oedema of the ocular conjunctiva and slight diffuse haziness of the vitreous, but without visible changes in the iris and without pain, the disease in the course of two days made the aqueous and the vitreous so turbid that vision was reduced from $\frac{5}{1V}$ to $\frac{5}{LX}$. Although there was some slight improvement in vision, less chemosis and less turbidity of the vitreous about the eighth day of the disease, a detachment of the retina occurred probably on the sixteenth day, as on this day marked contraction of the visual field and great impairment of the central vision was noticed. In view of the fact that both eyes were attacked by the same disease, although not at the same time, and that in both it was about the same course, it seems reasonable to assume, that the eye disease was caused by an unrecognized depraved state of the constitution.

PLASTIC EXUDATIVE CYCLITIS.

BY J. S. PROUT, M. D., BROOKLYN, N. Y.

WITH THE MICROSCOPICAL EXAMINATION OF A CASE BY JAMES L. MINOR, M. D., OF NEW YORK CITY.

Three cases of this rare disease having come under my care recently, it has interested me to converse with my colleagues about them and to look a little into the literature of the subject. To one point in diagnosis I wish to direct attention: These plastic exudations, in some cases at least, are seen to be in contact with the posterior surface of the lens, the anterior part and general shape of the globe being unaffected. What would be the condition of an eye-ball in which a glioma or sarcoma had grown so as to completely fill the vitreous chamber?

CASE I.—B. D., æt. 9, came to the Brooklyn Eye and Ear Hospital December 26, 1882. His mother said that his right eye had been sightless five or six months; there had been no precedent general sickness. It had for one week been sore. The ball was *very hard*; there was considerable ciliary injection; the iris—surface was dull; the condition of pupil not noted. The eye was found to be sightless. Left eye V = $\frac{20}{x}$; improved by + $\frac{1}{16}$ spher. The ophthalmoscope showed the deeper media hazy, a grayish reflex round ciliary region; centrally the reflex was dim. A solution of eserine was instilled, but without effect on the tension. The case was believed to be an exudative inflammation of the anterior portion of the uveal tract. Eserine producing no effect, atropine was tried, causing some dilatation of the pupil, but no other effect. Although the tension was excessive from the beginning there was no complaint of pain. Seven weeks later the sclera in the superior ciliary region showing a tendency to yield, the pigmented tissue showing through, a sclerotomy upward was tried, but without effect on the tension. His general health seemed to fail under the existing, though little complained of, pressure of the disease, and on March 13, 1883, the ball was enucleated, placed in Muel-

ler's fluid and given to Dr. James L. Minor for examination, whose report is appended.

The diagnosis was not clear although all the appearances led me to consider it an inflammatory product rather than a neoplasm; in other words *plastic* or *exudative cyclitis*.

After the enucleation the boy's condition very decidedly improved.

DR. MINOR'S REPORT.

After hardening in Mueller's fluid and later in alcohol, a meridional section of the globe was made.

Macroscopic Examination.—The cornea, iris and lens were in normal condition and position. There was an irregular umbrella-shaped detachment of the retina, its connections being retained only at the optic nerve entrance and the ora serrata. As it approached the latter it became noticeably thickened, as was also the ciliary body. The cavity thus formed was occupied by the remains of the vitreous body and patches of hemorrhage. The space between the retina and choroid was filled with a substance resembling the vitreous except at a point which corresponded with the anterior supero-external quadrant of the globe, where there was a hemorrhage that coincided with a slight thinning and ectasia of the external tunics of the ball. Sections were made and subjected to the double staining with hæmatoxyline and eosine.

Microscopical Examination.

Cornea.—Normal, except a slight infiltration of leucocytes near the limbus.

Sclera.—Normal, except at the ectatic point where it is thinned from atrophy, and there is besides slight infiltration of its inner layers in the ciliary region.

Iris.—A little thickened from slight cell infiltration, no adhesions. Ciliary body enlarged from infiltration of lymphoid cells, amorphous coagulated albuminous exudation, new blood vessels and hemorrhagic spots

Choroid.—Has largely disappeared and nothing definite could be made of its structure.

Retina.—Thickened and of irregular outline throughout its entire extent. Abundant infiltration of lymphoid cells, numerous hemorrhagic patches, marked vacuolization of its structures; some of the vacuoles being occupied by coagulated albumen, while others were empty. These changes were most marked near the ora serrata and least so near the optic nerve entrance. In the region of the ora serrata it was in places difficult or impossible to distinguish the retina from the inflammatory products. All its layers were involved.

Optic Nerve.—Showed vacuoles and very slight cell-infiltration in its ocular portion; the rest was normal.

Vitreous.—Is occupied almost entirely by hemorrhagic exudations. The material occupying the space between the retina and choroid was amorphous—the remains of the subretinal fluid, the albuminous parts of which had been coagulated. There was also a large hemorrhage corresponding to the ectasia of the external tunics of the globe.

Remarks and Diagnosis.—The case seems to have been one of cyclitis with a marked tendency to hemorrhagic exudations. The other appearances described were secondary to this process, and there was nothing to suggest either gliomatous or tuberculous character.

Pathological Laboratory, Eye and Ear Infirmary.

Jan. 21, 1884.

New York.

CASE II—John M., æt. 5, was brought to the Brooklyn Eye and Ear Hospital by his father on April 5, 1884, who stated that the boy's diseased eye had seemed to be good until two weeks before. There was complaint of pain; but no ocular injection. On the lower part of the cornea there was a white cloud resembling a lead stain; the ball was *hard*. Through the somewhat dilated pupil a grayish reflex could be seen. The ophthalmoscope showed a dense gray exudation close behind the lens, the anterior surface of which, apparently occupying the hyaloid fossa, appeared smooth and without vessels. He was seen by some of the New York ophthalmologists, who agreed with me in thinking the case one of exudative cyclitis, and advised enucleation. In the middle of June some lateral limitation of motion was

found, suggestive of rupture or extension of the posterior pole of the ball. Distension existed in front, caused by the extreme tension; the sclera was thinned and the uveal pigment showed through, as in the case of B. D. Although the best possible result would be phthisis bulbi, still, as there seemed no urgency as to removal, an attempt was made to arrest the further progress of the disease by giving opiates for the relief of pain and small doses of calomel with extract of cinchona. This at times seemed to promise success; the prominence of the ball and the pain would become less, but exacerbations soon recurred. For some little time he did not attend. On July 23, I was requested to see him at his home in consultation with the family physician. Three days before he had become unconscious; had then had convulsions with periods of consciousness. When seen he was comatose, the ball strongly protruding, soft; the cornea dry. His history and condition suggested rupture of the ball posteriorly with extension of the inflammation to the brain. He died on the next day. No post-mortem could be obtained.

It is evident that in this case the ball should have been enucleated early in its course, but it was hoped that the disease might be arrested as in the following case, and only shrinkage of the ball result.

Noyes says:

“To remove an eye which is the seat of some disease that resembles, but is not glioma, is a needless mutilation. (*Diseases of the Eye*, N. Y., 1881, p. 302.)

CASE III.—Within three years, I think, I saw a case at the Hospital that had been under the care of one of my colleagues, which presented a well marked “amaurotic cat’s eye.” It was quite a young child and was the first diagnosis of the sort, plastic cyclitis, that I recollect making. Unfortunately the record cannot be found. I do not recall the condition of the tension, nor previous history. There was no pain. Small doses of the bichloride of mercury and iodide of potassium were given and afterwards with the ophthalmoscope a faint reddish reflex from the fundus could be obtained. The case then ceased to attend the Hospital.

Cases of plastic or exudative cyclitis, simulating glioma or

sarcoma are rare, though described in some of the books. The three cases given above are the only ones in which I have made this diagnosis. My colleague, Dr. A. Mathewson, whose experience I presume to be greater than my own, says he does not recollect ever making it. Nor have I found all of those with whom I have talked *practically* familiar with the subject. It is unfortunate that my description of the cases is not more full, but the symptoms pointed sufficiently strong, in my opinion, to an inflammatory character, and therefore by a careful observer should not have been mistaken for glioma. In all the anterior chamber was clear, the iris was but little involved, the pupil was large or became so; in two the tension was extreme, in that of J. M. only, was there pain. As to *cause* nothing could be learned. There was in no case any history that could justify the diagnosis of metastatic choroiditis, nor had there been any injury. In B. D.'s case, in which the greatly increased intraocular tension caused yielding of the sclera without producing pain, the general health evidently suffered from the irritation; from the time of the enucleation his condition decidedly improved. In J. M.'s case there was considerable pain at times, which could be controlled by opiates, but enucleation was postponed too long in the hope that the inflammatory process would cease. The question also arose: will not the removal of the ball in so young a child cause deformity of the face from arrest of development in the orbit? On this point opinions differ. One whom I consider an authority says if enucleation is done under five years of age the bony walls of the orbit do not develop as they should. Another, equally good, says that this is not so. Which is right?

Arlt speaks of cyclitis with fibrino-plastic exudation, which, from behind the zonula, in many cases, extends over the anterior surface of the vitreous, filling the hyaloid fossa and extends sooner or later into the posterior part of the vitreous. He does not mention the tension here, but further on he says that, when the exudation is exclusively or mainly serous, the increase of intra-ocular tension causes blindness. When the tension is decidedly increased and we exclude other causes, such as glioma and tumor, we can with certainty decide that cyclitis exists (Klin-

ische Darstellung der Krankheiten des Auges, Wien., 1881, p. 261 and seq.). *Wecker* does not mention such cases as those I have described in his contribution to Graefe-Saemisch, nor do I find mention of them in *Wells* (Diseases of the Eye, Phila., 1880). *Knapp* (Intraocular Tumors, N. Y., 1869) under the head of glioma of the retina, says, there are many morbid changes in the eye, inflammatory and non-inflammatory, which may be mistaken for glioma and sarcoma. Of the former—inflammatory—he particularizes suppurative choroiditis after cerebro-spinal meningitis. In the Appendix he says, that among the various products of suppurative plastic choroiditis, many, in the period of growth or atrophy, are not entirely unlike tumors, but are distinguished from them by their course. *Mooren* in his "Fuenf Lustren" does not mention plastic or exudative cyclitis, but in the "Statistik" gives 78 cases of monocular and 18 of binocular exudative choroiditis, but says nothing of them in his clinical remarks. Nor do I find in *Michel* (Lehrbuch der Augenheilkunde, Wiesbaden, 1884) anything on the subject under consideration. *Noyes* says we may have exudations behind the lens constituting varied forms of vitreous opacity. If serous exudation predominate we may have increase of tension. Further on he refers to the paper by *Raab* (Archiv. f. Oph. xxiv. iii. p. 163), who gives the anatomical description of three eyes enucleated as gliomatous, which had a peculiar deposit of fibrous tissue behind the lens, resulting from cyclitis or choroiditis. In all there was increased extension, absence of inflammatory tokens in the anterior portions of the globe and the presence of a light-colored mass in the depth of the eye. These cases were aged 10, 4 and 8 years. At the end of his paper *Raab* gives 28 references to the literature of his subject—Das Amourotische Katzenauge—in which he mentions *Allin's* case of supposed glioma reported in Trans. Am. Oph. Society, 1872. *Alt* figures and describes the appearances in plastic cyclitis in his admirable "Lectures on the Human Eye" (N. Y. 1880, p. 106 and seq.) See also *Dr. L. Howe's* report of a "case illustrating the difficulty in recognizing glioma," in the Trans. Am. Oph. Society, 1883, (Vol. iii. part iv., page 591), in which he refers to a paper by *Nettleship* on the same subject.

TRAUMATIC LUXATION OF THE LEFT CRYSTAL-
LINE LENS, INWARDS, DOWNWARDS AND
BACKWARDS. SPONTANEOUS RESTORA-
TION TO NORMAL POSITION WITH
FAIR VISION.

BY B. E. FRYER, M. D., U. S. A., KANSAS CITY, MISSOURI.

Second Lieutenant V. E. S——d, 13th Infantry, 23 years of age, an officer on duty at the school of application for cavalry and infantry at Fort Leavenworth, of excellent health and physique, while at work in practical telegraphy was accidentally struck on the left eye-ball by the sharp end of a piece of zinc wire, such as is used in telegraphy, September 16, 1882. At the time of the accident this officer was at the upper end of a telegraph pole, and was about to fix some wire to an insulator. One of his comrades on the ground throwing up to him a piece of the same kind of wire about two feet in length, bent into a hook at each end, one of the hooks catching on the wire already on the pole and being held from rising higher, it swung round with much force, the other hooked end, which was quite sharp, struck the eyeball from above downwards, making an irregular wound about four and a half mm. in length in the sclera two mm. above the upper portion of the cornea, and about seven mm. from its vertical diametric line. The wound at its lower extremity reached the corneo-scleral margin. The force of the blow was so strong and the pain caused by the wound it produced so severe that the officer was only able to prevent himself from falling to the ground by great effort.

I saw the patient two hours after the reception of the injury, and found severe pain, well marked photophobia and conjunctival congestion. Discovered that there was a stain of pigment from either the ciliary body or the iris, or both, in the wound; the anterior chamber full of blood. Atropine instillations had been ordered by my assistant before my arrival, and these were continued; and in addition I ordered iced compresses to the injured eye; the patient to remain in bed in a darkened room.

A diagnosis as to the full extent of the injury at this time was not made and could only be uncertain. The prognosis was guarded, it being of course very possible that if there were a laceration of the ciliary body only, with no other deep lesion, that ciliary inflammation might make enucleation essential.

The following day the conjunctiva was more congested and the pain had not lessened, there was the throbbing too and supra-orbital pain. Much of the blood in the anterior chamber had been absorbed. Pupil as far as could be made out was dilated, but not regularly so, and was not circular. A hastily made test of vision showed only a quantitative perception of light. Duboisia sulphate instillations replaced the atropia solution, and the iced water in which the compresses for the eye were placed, was carbolyzed.

The treatment was continued the same for a week when the active symptoms subsided, and the iced compresses were discontinued and now the eye was bandaged, a portion of absorbent cotton being placed over the eyeball, which dressing was to be changed twice daily and duboisia instillations used. From the eighth day the patient was allowed to sit up a few hours each day in the darkened room.

It was now found that the visual field was diminished except at its outer portion though vision had improved so as to allow counting fingers at three feet. But until the fourteenth day after the injury the photophobia was too great to allow of a complete examination of the eye, even by oblique light and our examination up to that time was that of a hasty glance, the eyeball being only very moderately illuminated.

On the fifteenth day, a fuller examination being possible, it was found, as had been feared, that the lens was dislocated. It was displaced downwards, inwards and backwards. The external periphery of the lens could be seen quite distinctly, and the optic disc and retinal vessels were not difficult to observe when sought for external to the outer edge of the lens, though there was slight cloudiness in the vitreous. The lens was slightly cloudy also. Aqueous humor free from blood. Wound entirely healed.

The treatment was continued with the exception that the patient was allowed exercise in the open air after sunset, and after the lapse of another week to be out a short time each day in daylight, with a shade over the injured eye. Vision during this time was gradually improving and at the end of five weeks was $\frac{20}{60}$. The duboisia was gradually discontinued and only resorted to occasionally when slight pain manifested itself.

Vision steadily improved and by the middle of November was $\frac{20}{60}$, with no further gain obtainable by glasses.

On December 2, the pupil being dilated, I found that the lens had regained its normal position, or very nearly so, though it was still cloudy, apparently less so than it was two weeks before this time. The optic disc and retinal vessels were now quite readily seen through the replaced lens.

The patient at the latter part of the winter of 1882-'83 was granted a year's sick-leave and I have not seen him since, but in a letter just received from him dated October 3, 1884, written at Fort Wingate, New Mexico, I find that he is on duty again, and he writes that his vision in the injured eye remained until last March, as it was when I last saw him, but since March, 1884, it has improved steadily, and he says he can now read type (about Jagers' 14), at a moderate distance from the eye, but that the words in the center of the field are not so plain as at the periphery.

Lt. S. has, of course, been warned as to the possibility of sympathetic trouble in the future.

ON HOTZ'S METHOD OF OPERATING FOR ENTROPIUM.

BY FRANK ALLPORT, M. D., MINNEAPOLIS, MINN.

The multiplicity of methods of operating for the relief, or cure of entropium, shows conclusively the unsatisfactory results that are usually obtained. This may perhaps be partially due to the fact that the different devices are usually quite ingenious,

and complicated in their mechanism, and difficult to render comprehensible, without practical demonstration; still, it does not appear that this is the only explanation for unsatisfactory results. The chief reason resides, I believe, in the uncertain and unscientific nature of the operations themselves. Take, for instance, that method of operating which consists in cutting out a portion of skin and orbicularis, and then bringing the lips of the wound together by sutures. Everybody who has used this method must have been frequently disappointed in its results. It causes a lifting of the lid, much more than an eversion, and is usually (especially in flabby-skinned persons) only a temporary procedure at best; for, in a short time, the ptosical and encurved condition is apt to return, and the patient's position is even worse than it was originally. I have seen many patients, upon whom several operations of this nature had been performed, still suffering from severe entropium, whose lids have been so shortened as to render direct apposition of the two lids impossible. In this method of operating, we are compelled to base our hopes of success upon something entirely untrustworthy and unscientific. We extract a piece of tissue, hoping that it is just enough (taking into consideration the cicatricial contraction) to evert and lift the lid to its proper position. In the first place, we cannot accurately calculate the exact amount of tissue necessary to accomplish this end; and even if this were possible, we cannot estimate the extent of cicatricial contraction that will occur. Besides this, the point of operation is situated in movable tissue, and is attached to no fixed and definite point. In the course of time the skin begins to pull in the direction of the lid margin, and, before long, another operation is indicated.

It is needless to enumerate or criticise the different methods of operating for entropium.

They all have their advocates, who possibly feel, that, new methods are needless innovations. Perhaps I am yielding to a bias when I urge the general adoption of Hotz' operation. Still I can conscientiously assert, that after using other methods in a diversity of cases, I have discarded them all, and now use only Hotz'. Of course, I sometimes employ a grooving of the tarsal cartilage, or canthoplasty, where such variations are indicated;

but with this method of operating I very seldom have occasion to resort to these modifications.

I regard the principle upon which this operation is based as the correct one to be adopted in operating for entropium. This is, in brief, attaching the lips of the wound to the tip of the tarsal-cartilage, which is supported by the fascia tarso-orbitalis, which, in its turn, derives a firm attachment from either the supra- or infra-orbital margin. For a further elucidation of this principle, and for the different steps of the operation, I refer the reader to Dr. Hotz' articles on the subject in the "Archives of Ophthalmology," July, 1879, page 249, and December, 1882, page 442.

A model operation for entropium would be one that permanently everts the edge of the lid, without loss of skin, or the production of a deformity. I have now operated on fifty cases after Hotz' method, and feel that when the operation is properly performed, these results will almost always be attained.

As Dr. Hotz remarks in one of his articles on the subject, this is no operation for surgeons who have only a short time to spare. It must be done carefully, and laboriously, with much attention to each and every detail.

When performed in this manner, and cosmetic and satisfactory results are obtained, even in very aggravated cases, I am confident that few practitioners will consent to return to any other method of operating for entropium.

CORRESPONDENCE.

The following correspondence was received from Dr. C. A. Bucklin, New York, on a new polariscope for testing pebble lenses:

This instrument consists of a nickel cylinder $\frac{3}{4}$ of an inch in length and $1\frac{1}{4}$ inches in diameter. The cylinder has a slot at right angles to its axis which will receive any lens the quality of which is to be tested. Each end of this cylinder has an ornamental tightly fitting nickel head through the centre of which

there is an opening $\frac{1}{8}$ of an inch in diameter. Securely fastened in each of these openings is a most perfect polarizing plate, the axes of which are set at right angles to each other.

It will now be found that no light can be seen through the instrument, these polarizing plates having entirely absorbed it. If a pebble lens, however, be placed between these plates the light comes through very brightly. No variety of glass lens can bring about this effect.

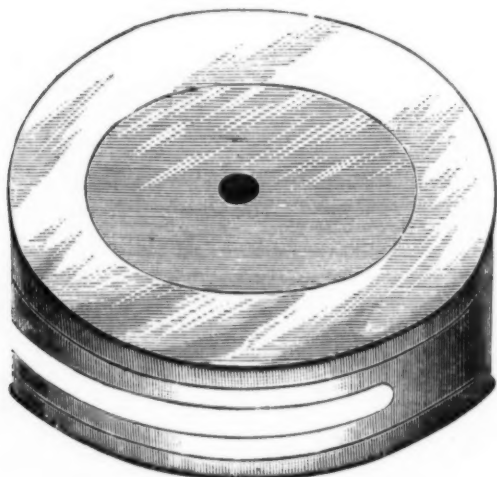


Figure 7.

The oculist or optician can determine at once whether a lens be pebble or glass. The merits of this instrument when compared with any other contrivance for this purpose are: It is so compact it can always be carried in the vest pocket. It is very ornamental. It can never get out of order or adjustment, thus preventing the fraud which is so frequently practiced of exhibiting glass lenses for pebble through a "pebble tester" the adjustment of which can be so changed by a single shake as to make it lie.

It is thus supplied with the most perfect polarizing plates that have been used for this purpose. There is a great lack of uniformity in the polarizing plates which have been used for this purpose in other instruments. Some are of a poor material and will not shut the light out perfectly, while others are not of sufficiently compact material to prevent the natural cleavage of the stone from showing in the plates, thus causing them to fall to pieces. Another advantage is its cheapness; it can be furnished for one dollar and fifty cents. The old form of pebble tester sells for two dollars and fifty cents.

The placing of an instrument so perfect upon the market at such a reduction of price was the result of an accident which is not without interest to all.

Notwithstanding the statements of all the mineralogists that the material for these polarizing plates can be found at so many places, I found, when the Spencer Optical Mfg. Co. requested me to produce a cheap and effective apparatus for testing pebbles, that neither the English, German, French nor American market could produce the mineral in a rough state of proper quality and sufficient quantity.

The best price I could obtain in Paris through our broker there, for each set of plates of the quality desired, was one dollar and fifty cents.

I was about to give up the project after having manufactured 1000 of the metallic frames for the instrument when I accidentally heard of some fourteen lbs. of this mineral which was mined in Brazil some seventy-five years ago. It was sent to Paris and held there many years at a gem value.

An American dealer in gems some years ago bought the entire collection as a speculation and brought it to New York intending to cut it into gems. Although the density was sufficient to enable them to cut and polish it for gems, the color which is a light green, is not the shade most in demand.

I was shown a shade of this stone of no greater density than that we are now using in the polariscope, gems from which were said to bring four hundred dollars each. This statement is

made by one of the most reliable houses in the city and I give it as it was made.

I believe this collection to be the only one of the size and quality to be had. We intend to manufacture as many polariscopes for testing pebbles as is possible from this material without any expectation of being able to continue their manufacture when this material is exhausted. Independent of the merits of glass and pebble lenses there always has been a demand for pebbles, and there always will be some persons who will have them because they are pebbles, without any further reason.

I find in my practice a large class of business men who wear an eye glass on a hook when not in use. If the lenses are glass in some kind of business they will become so scratched in a week that they are not fit to use. These men are willing to pay for pebbles which will not scratch. A frequent question which is asked by all classes is, "Are the glasses I am wearing pebbles?"

With the "*Polariscopic Pebble Tester*" which is always with you in your vest pocket, the question is answered with absolute correctness, without effort, and usually greatly to the satisfaction of the enquirer.

The following letter has been received from Dr. Lucien Howe, of Buffalo.

HEIDELBERG September 18, 1884.

Those who read with interest each year the "Bericht" of the Heidelberg Ophthalmological Society appreciate of how much importance are these meetings in the diffusion of knowledge in this department.

Most of the leading oculists in Germany proper were present this year several from Austria and a few from more remote countries. There were, in all, between forty and fifty. An informal meeting was held Sunday evening and the next morning at nine the Society began its work proper.

Professor Arlt, as the patriarch of ophthalmology, occupied the chair, but soon asked Dr. Noyes, of New York, to officiate in his stead. Dr. Hess, of Mayence, was at his post as Secretary.

According to the list prepared Dr. Gunning was to have begun with clinical communications concerning Trachoma and as to the etiology of

glaucoma, but these papers with one by Dr. Cohn were passed by because of the absence of the writers.

Dr. Vossius being next in order gave an account of attempts to infect the cornea with lepra. The results were rather of a negative character, and from them no positive conclusions could be drawn.

The next paper on "The Course of the Optic Nerve Fibers," by Dr. Uhthoff, of Berlin, was interesting in the extreme; he had observed three cases which were subsequently examined post mortem, one of which illustrates the general line of study pursued. The patient referred to had entire loss of vision in about the upper and inner quadrant of the field in one eye, and the corresponding section of the optic disk, lower and outer, was entirely atrophied. The rest of the nerve and retina were perfect, as seen with the ophthalmoscope or tested subjectively. Uhthoff inferred that this atrophic bundle might be traced backward by making sections of the nerve at various points. This was found to be the case. It appeared that the wedge shaped bundle of fibres went at first back and downward, at the same time flattening out slightly and approaching the centre of the nerve. As the atrophic portion passed through the optic foramen, it resumed its triangular form, but in the chiasma spread out into a narrow band going from side to side. These observations not only corroborate a similar one made before, but show that this path of inquiry must lead ultimately to a more exact knowledge of the course of the optic fibers.

Dr. Eversbusch of Munich presented a paper upon the structure of the iris. He stated that the so-called "radiating fibers" which he and others had regarded as muscular were in reality nerves. It is true animals having an elliptical pupil possess a sector of well marked muscular fibers radiating from each extremity of that opening. This was demonstrated most satisfactorily, later, in the iris of the horse. In man and other animals with a circular pupil, however, it was impossible to assert the existence of any radiating or dilatatory fibers. In the figures commonly given the interlacing bands of the sphincter are seen bending at right angles off toward the periphery of the iris. Eversbusch, however, showed that these were only parts of the sphincter, for, in these sections made parallel to the surface, if the next one above or below be examined, it is possible to trace the remaining portion of the fiber which was apparently becoming a radiating one but which in reality went back into the sphincter.

Dr. Brettauer of Triest read a paper handed to him by Dr. Carl Carson, of Vienna. It related to the effects of cocaine hydrochloric as an anesthetic. He stated that a two per cent. solution dropped upon the conjunctiva would produce a partial anesthesia of that membrane and of the cornea, together with some dilatation of the pupil. This was demonstrated later at the clinic of Prof. Becker, and the subject attracted much interest. A man whose left eye was healthy and with the ordinary sensibility was chosen for experiment. Two drops of a two per cent. solution were placed in the conjunctival sac; in about ten minutes it was noticed that there was a distinct difference in the reaction of the two eyes to any irri-

tant, and within five minutes more this anesthetic effect was quite remarkable. The palpebral, the ocular conjunctiva or the cornea could be touched with a blunt probe without causing the patient to even wink.

When the cornea was pressed so firmly as to indent it, the lids closed, but no pain was complained of. A sharp probe upon the cornea or conjunctiva was said to "scratch uncomfortably," and finally when a speculum was introduced or the conjunctiva caught in the toothed forceps the man complained that they "pulled," but the degree of reaction was comparatively slight. These effects, last it is said, for only half an hour or more, and although it has the disadvantage of dilating the pupil for a longer time it is evident that an efficient remedy has been added to those valued by oculists.

In the session for demonstration Prof. Hirschberg gave the history of a case of metastatic choroidal sarcoma, accompanied by the specimen and by drawings of its microscopic appearances. After first showing itself in the eye the disease extended to other portions of the body, ending in the death of the patient.

Dr. Plehm presented an optometer consisting of a convex glass at each end of a tube. The degree to which it was necessary to approximate or separate these two lenses of equal focal power, would indicate the degree and kind of ametropia.

Dr. Mayerhausen showed a self-registering perimeter. This was a modification of Foerster's with an attachment like that suggested by Stevens. As a whole it appeared no more useful but more complicated than either of the originals.

In the next session for the reading of papers Prof. Noyes, of New York detailed the manner in which he had succeeded in removing a cataractous lens which had been dislocated into the vitreous and was floating there. The patient laid on his breast, his head hanging forward from the table, and thus the lens was caused to fall downward into view. While in this position an anesthetic was given, and a suitable curved needle passed through the sclera fixing the lens and holding it in place. Then the patient was turned on his back and the lens removed by a corneal incision. The wound healed satisfactorily, the form of the globe together with some vision was retained.

Dr. von Hoffmann brought up the question of the treatment of diphtheritic and croupal conjunctivitis by a communication relating to these form of inflammation. The following discussion showed the general opinion to be, that we do not yet know of any better method of treating these cases than with iodoform, and when this is properly done the prognosis is favorable,

Some other papers were presented and demonstrations made, but the foregoing includes the most prominent to be mentioned in a short notice like this.

The social features of the occasion were also very attractive, and in general this meeting of the Ophthalmological Society must be counted among its most interesting and important.

CORRIGENDA NO. 6.

Page 191, 10th line from below read Dr. Carl *Koller* instead
of *Carson*.